THE VETERINARY RECORD

A Weekly Journal for the Profession.

No. 535. OCTOBER 8, 1898. Vol. XI.

"Those who Help Themselves."

"It is a matter of great importance just now" writes a correspondent "that the members of the profession should associate themselves as much as possible with all questions pertaining to public health, as a great future for us lies in that department if we but look after it." With this abstract proposition probably every veterinary surgeon will agree. There are scores of practitioners able and willing to accept offices under local authorities, where scientific knowledge is wanted and where, we believe, only veterinarians can supply all the necessary knowledge to ensure the work being well done. Meat and milk will always be largely required as food for human beings, and every year the public is becoming more and more convinced that its safety requires efficient inspection of these articles. That such inspection is essentially veterinary work we are all agreed, but what steps are we taking to secure it? Where have we publicly associated ourselves with these questions? There is an old adage about the help which will be given to those who help themselves, and it might be expected that wherever questions of public health were being discussed, there would veterinarians be gathered together for the advancement of their own interests. Twice within the last few weeks have public assemblies discussed the very questions which we are all watching with such interest. At Dublin the Institute of Public Health included a veterinary conference, and veterinarians attended in full numbers. At Birmingham the Sanitary Institute has just concluded a most successful meeting, and on the Friday papers were read before the section of Preventive Medicine on Meat and Milk and Tuberculosis. The paper by Dr. Niven was one of the weightiest that has ever been written on the subject. There was a crowded audience, and the veterinary profession was represented by only two practitioners. Not a teacher nor a Member of Council was present, and we fear that not a single veterinary delegate was sent to support our interests, It is too much to expect that Medical Officers of Health and County Councillors will always bear in mind the pretensions of those who do not appear to urge their own claims.

It is satisfactory to know that Dr. Niven urged that the recommendations of the Royal Commission might be added to, and that the first addition he suggested was:—"The creation of a veterinary public health service." It is certainly gratifying to find that experts and authorities are recognising the necessity for veterinary aid in matters of public health, even when no veterinarians are present to give material evidence of their fitness and desire to render such aid. It would be safer, however, to look after our own interests than to stand passively by and wait for recognition. It is not modesty that keeps our members in the back ground—it is apathy. The realisation of our claims will be largely expedited by a little self-help, and we can exhibit this by publicly associating ourselves with the great questions which we fancy are specially within our sphere of action.

The Right Hon. Walter Long on Tuberculin.

The opening day at the Royal Veterinary College was extremely interesting and instructive. Prof. Shave devoted a large proportion of his address to the subject of tuberculosis, and lucidly and logically demonstrated how the disease in cattle was a danger to human beings and a loss to agriculture. He pointed out how with tuberculin as a reliable aid to diagnosis, the plague might be controlled and public health safeguarded.

Sir George Brown made a little speech in which, as usual, he mingled humour with philosophy. He pitted facts against opinions, and drew an inference in favour of the primary importance of anatomy as a study for veterinary students. It almost seemed as though he compared anatomy with preventive medicine—a science which might possibly consist too much of opinion. We half feared the Chairman might follow this trail and evade a discussion of tuberculous "opinions." But Mr. Long, like a true sportsman, stuck to the line followed by Professor Shave—a line, be it said, formed of as solid facts as anatomy.

Early in his speech Mr. Long referred to the recommendations of the Royal Commission and indicated that any government action would be limited by the report of the Commission. At any rate we interpreted as a limitation his remark that—"All that the Royal Commission recommended the government should do was, in the first instance, to provide tuberculin and pay a fee in order to secure that a properly qualified veterinary surgeon should carry out the operations."

Mr. Long went on to say "there certainly will not be any unwillingness on my part in approaching the Treasury to obtain the necessary consent to the expenditure." This promise was not unconditional but it marks progress, as on the last occasion that the Minister of Agriculture touched the subject he had two conditions—one, that he should be satisfied of a general desire to make use of the opportunities, and the other that he should be convinced of the reliability of tuberculin as a safe test. We accept the omission of the second condition, before an audience of veterinary surgeons, as evidence that Mr.

Long is satisfied of the value of tuberculin. We are also convinced that he does "not want in any way to seek to evade the responsibility which must always rest upon the executive government in matters of this kind."

The first condition is a grave difficulty in the way of legislation. It must be acknowledged that there is yet no general desire on the part of stockowners to adopt the tuberculin test. Here and there a rich man has voluntarily adopted tuberculin to enable him to clear his herd of tuberculosis, and success has attended his effort. In nearly every case the operation has been carried out by an owner of pedigree stock, and this class of owner will be driven more and more to adopt tuberculin by the action of foreign governments declining to admit cattle which will not stand the test. Unless the pedigree owners clear their stock voluntarily by the aid of tuberculin their sales will be limited to the home demand, and their most lucrative market closed.

The pedigree owners are an influential class, and we anticipate that their example will be followed and even that their interests will force them to protect themselves against possible infection by insisting that others shall adopt what is good for all. But this will be a slow process, and "the general desire to make use of these opportunities" will require more than friendly persuasion. We hope and believe that the extra pressure necessary to move the executive government will be found in the agitation of the Medical Officers of Health and in the awakening of the consumers of meat and milk to a lively sense of their danger.

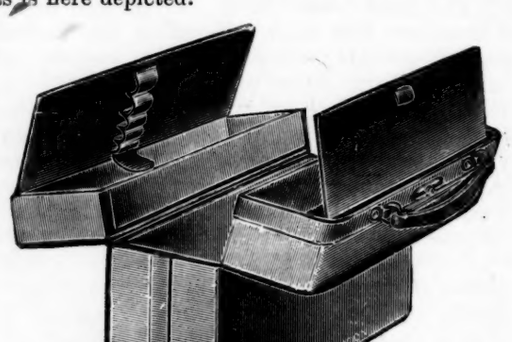
The Royal Commission was quite alive to the insufficiency of mere voluntary use of tuberculin under Government direction, and recommended special regulations for the protection of public health. The Commission advised—the use of tuberculin *plus* inspection of meat and milk, and emphasised its report by the statement: "All precautions against the communication of tubercular disease to human beings, from the consumption of meat and milk of diseased animals, must be regarded as temporary and uncertain palliatives so long as no attempt is made to reduce the disease among the animals themselves." This fundamental principle is of more importance than all the detailed rules suggested by the Commission.

Mr. Long is convinced of the necessity of some attempt to control tuberculosis. He recognises the ravages of the disease among stock and its danger to man. "Therefore" he says, "We have a double object to work for." He recognises the value of tuberculin. "I think, perhaps," he says, "that the discovery with regard to tuberculin may not unfairly be described as one of the most important that has ever been made." But Mr. Long's views are insufficient to enable him to act in his official capacity. He is not an autocrat. He is a minister of a country where representative government holds sway, and where vested interests obstruct legislation until popular opinion desires progress. The veterinary profession must join the medical officers in educating public opinion to the necessary point. We may be convinced of the right way and of the necessary methods, but our clear duty is to instruct others and to help in the formation of a public desire to make use of the opportunities afforded by science. The Board of Agriculture may be trusted to act when—but not until—a general desire for action is manifest.

EMERGENCY BAG.

By B. P. Godfray, M.R.C.V.S.

The desire to possess a compact bag capable of holding drugs and instruments suitable for use in those cases to which we are often hurriedly called, has suggested to my mind such an "Emergency Bag" as is here depicted.



The bag, when closed, measures 13 inches long, 4½-ins. wide, and 10 inches deep. When open it is divided into a base and two flaps. The base contains loops for four 4oz. bottles and a glass jar, there is also room for tow, bandages, syringe, catheter etc. On the cover of the flaps are loops for instruments, and the flaps may contain a tin case for horse-balls, another for suture needles and material, a hypodermic case and pellets, etc., according to the practitioner's wish. In fact the bag can be fitted with nearly everything a veterinarian can require on an emergency, besides those things that are of daily utility.

The bag is lined with Messrs. Arnold and Sons patent enamel lining and the loops are as suggested by Mr. Gillam in his "Improved Instrument Case" which allows of the thorough cleansing of the interior of the bag.

And finally the "Emergency Bag" is supplied by Messrs. Arnold and Sons at the very moderate price of two guineas.

AN ACCIDENT.

By Vet.-Major Joshua A. Nunn, F.R.C.V.S., C.I.E., D.S.O., A.V.D.

During the summer a hunter on which tracheotomy had been performed 18 months previously was brought to my notice, as the owner complained that the tube appeared to fit badly and was unsightly. The apparatus was an exceedingly clumsy one, and protruded some distance out of the opening, which had cicatrized and into which it could only be introduced with difficulty. On examining the wound it was evident that at some time considerable force had been used, and the cut end of one of the rings had been partly fractured and bent inwards. The membrane was greatly hypertrophied, forming a tumour which partly occluded the lumen of the trachea, and which it was necessary to remove. From the position of the tumour, high up in the trachea, it was impossible to transfix it with a needle and silk without making a further incision, which I was unwilling to do, but I could grasp it—as I thought firmly—with a pair of curved forceps and get a pair of curved scissors round its base. By these means I removed it, but in drawing it through the wound it slipped from my grasp and fell down the trachea. At the time I was somewhat alarmed, but the patient never showed the slightest symptom or uneasiness. A suitable tube was fitted, and the owner tells me his animal's respiration is improved. The portion of tissue that went down the trachea was about the size of a small walnut.

ABSTRACTS FROM FOREIGN JOURNALS.

Treatment of Certain Lamenesses by Morphine—Atropine Injections.

Since Tempel, of Leipzig (1), recommended the employment of injections of morphine associated with atropine in the treatment of chronic lameness, this method has received numerous trials of which the German journals extol the definite results, notwithstanding the general toxic phenomena observed in certain cases, but without fatal consequences.

Büttner (2), then Reissman (3) were the first to mention cases of unexpected recoveries. Until then Tempel's procedure was exclusively restricted to chronic and intractable lamenesses having undetermined causes, and in particular to so-called rheumatic lamenesses of the shoulder and haunch, after the usual therapeutic means remained fruitless.

Little by little some have extended its application to more recent rheumatic lamenesses and even to acute lamenesses due to straining, slipping, etc.

Meinicke (4), regimental veterinary surgeon at Limbourg, reports the following case which is not wanting in interest.

(1) *Deutsch. Thierarzt. Wochen.* 1897., No. 31.
(2) *Berlin.* " " 1898.
(3) *Ibid.* 1898.
(4) " 1898, No. 18

An officer's horse suddenly fell lame in the off fore limb while being exercised, during which it was given to friskiness and more particularly shying. The lameness was well marked at the walk but became exaggerated on trotting; passive movements of abduction of the shoulder were very painful; action of the limb less extended; pressure on the scapulo-humeral angle caused severe pain. No other trouble existed. Refrigerants, frictions, and Priesnitz's envelopment employed for ten days did not give any improvement. On the tenth day Meinicke used an injection conforming to the formula of Tempel, thus:—

Atropine sulphate	5 centigrammes *
Morphine hydrochlorate	20 "
Distilled water	20 grammes.

The whole quantity was injected at once in two places at the point of the shoulder.

After 10 minutes the general effects of the injection appeared with alarming intensity; dilatation of the pupils, dryness of the mouth with movements of the tongue and embarrassment of deglutition; progressive acceleration of the pulse up to 110 to 116 per minute; pulse small and thready; respiration profound but not accelerated; muscular tremors; titubation of the hind quarters, and anxious facial expression.

At the end of an hour, these symptoms of poisoning by atropine became so startling that the author thought it was time to administer an antagonistic. He injected 50 centigrammes (about 7½ grains) of morphine in 12½ grammes of water. This injection was very effectual, calmness was soon re-established, the pulse became gradually slower, and three hours later one could not count more than 60 very perceptible pulsations. The pupils alone remained in the same state. The animal appeared fatigued, depressed, (narcotised) and refused all food.

Next day all the trouble had disappeared, save the mydriasis which lasted until the third day. As to the lameness, it had also disappeared in a complete and definite manner.

Ellinger (1) of Dermbach, Schmidt (2) of Dresden, and Scholte (3) of Dingelstedt, have noted some observations, almost identical, as to the general and local effects of the morphino-atropine solution, one case of which was chronic shoulder lameness and another acute rheumatism.

Later Meyerstrasse (4) of Hünfeld reports some recoveries, either permanent or temporary, of very chronic cases, some even of more than a year's standing. He used Tempel's formula, injecting the whole or only a part of the quantity, say 15 grammes for example, according to the height and weight of the horse. The region into which it is injected matters very little, according to him, but he gives the preference to the presumed seat of the lameness and, failing that, the neck. Like other practitioners who have used this treatment, Meyerstrasse frequently

* 5 centigrammes approximately ¾ grains.
20 " (2 decigrammes) " 3 "
20 grammes " 5½ fluid drachms.

(1. 2. 3.) *Ibid.*, No. 19.
(4.) *Ibid.*, No. 28.

observed, especially in horses in poor condition, but in general without being able to explain otherwise than by a kind of idiosyncrasy, phenomena of atropine poison out of proportion to the relative weight of the subject and dose of the medicament employed. This poisoning never led to death; after a few hours, a day at the most, the normal state of health returns. The author recommends that the owner of the animal should be forewarned that toxic symptoms may supervene. All those practitioners who have used Tempel's prescription are unanimous in recognising that the dose of atropine should be diminished in order to prevent any disaster, especially when valuable animals are treated. Some recommend giving the total dose only by fractions at intervals of a few hours; others simply replace the dose of 0·05 centigrammes of atropine by a lesser dose, 0·02 to 0·025 for example. Perhaps it would suffice to increase the dose of morphine which is the antidote for atropine.—(*Berlin Thierärzt. Woch.* 1898. Ex *Annales de Médecine Vétérinaire, Bruxelles*, Sept.-Oct., 1898.)

Serotherapy of Strangles.

Delvos, veterinary surgeon at Gladbuch, uses blood serum derived from horses affected with strangles, selecting those animals which are neither too fat nor too badly affected by the disease. He generally extracts from 900 to 1000 grammes of pure and clear serum from four litres of blood. This is collected in an aseptic jar and placed for 3 or 4 days in ice; the serum which separates is afterwards passed through sterilised linen, then ½ per cent. of acid carbolic is added, after which it is heated to 70 C. and preserved in dark flasks. The author says he has had good results from the employment of this serum as a curative and preventative of strangles. He injects under the skin 20 to 40 grammes in the affected or those suspected of contamination.—(*Annales de Médecine Vétérinaire, Bruxelles*, Sept. Oct., 1898.)

Double Neurotomy in the Treatment of Spavin.

The treatment of spavin by division of the nerve is not new. Rejected at first as uncertain or useless, it has been brought to the front again by Bossi, of Bologna, (*Il nuovo Ercolani*) who has made a very complete study of the question. He recommends division of the tibial and peroneal nerves at the same time, both of which innervate the articulation of the hock. In six cases he has employed this procedure with success.

Fröhner, to test it, has followed the method of Bossi in a case of spavin having resisted the various usual treatments, including pyro-puncturing. The ankylosis was voluminous and the lameness intense. Upon the thrown animal, the operator at first divided the tibial inside the limb, four finger's breath above the hock-joint, then, having turned the subject over on the other side, he divided in the same region the peroneal nerve after exposing it between the anterior and lateral extensor muscles of the phalanges (extensor pedis and peroneus). Both incisions were closed with care and covered with a paste of aïrol, after which an antiseptic dressing was applied. As soon as the horse regained his feet it was seen that his gait was free and all lameness had disappeared. The internal wound healed by first intention, but the other slightly suppurated. After ten days the lameness was no longer appreciable, even on trotting. The result was not disappointing afterwards.

Fröhner thinks that Bossi's procedure should not exclude pyro-puncturing; according to him, one should complement the other. Firing is mostly within the scope of practitioners, it is more expeditious but less efficacious in general. It is precisely in the cases of failure of pyro-puncturing that the method of Bossi is well indicated. As in any other neurotomy, this operation should be performed only as an extreme measure.—(*Monatshefte fur prak. Thierk. B. IX., H. 9, 1898.* Ex *Annales de Médecine Vétérinaire, Bruxelles*, Sept.-Oct., 1898.

H. G.

ROYAL VETERINARY COLLEGE.

Opening of the Session.

On Monday afternoon last the winter session at the Royal Veterinary College, Camden Town, was formally opened when, in the unavoidable absence of Major General Sir Henry Ewart, K.C.B., the Right Hon. Walter Long, president of the Board of Agriculture, occupied the chair. The lecture theatre, where the proceedings took place, was crowded with members of the veterinary profession and students. Amongst those on the platform were: Lord Ribblesdale, Slr G. T. Brown, C.B., Dr. Crookshank, and Professor McFadyean, the Dean of the College.

Professor McFadyean, at the outset, said: I am sorry to say we have received a letter from Sir Henry Ewart, expressing regret at his inability to take the chair on this occasion. Through, however, a circumstance which tends to make our regret, perhaps, not quite so sharp as it might otherwise have been, we happen to be honoured with the presence of the President of the Board of Agriculture, and I have very great pleasure in moving that he take the chair.

This was carried by acclamation.

The Chairman: I am sure that you will all agree with me in regretting very much the absence of General Sir Henry Ewart, whose presence would have been very welcome here, and I am very conscious that I can only prove a very indifferent substitute for him, but I will endeavour to conduct the proceedings in an orderly manner and according to the programme which has been placed before me. I do not propose to trouble you with any remarks of my own at this stage of the proceedings, but immediately to call upon Prof. Shave to read us his introductory address.

Professor E. Shave, who was most cordially received, began with some advice to the students, recommending them to work hard if they desired to be successful at the end of their four years training. Let them be attentive to all the instruction they would receive at the College during the day and then devote three or four hours each evening to quiet reading and meditation in their own room. Let them go in for some reasonable form of recreation on Saturday afternoon, and rest on Sunday. They would find this necessary after the week's work. It depended very largely upon how they spent their time at College whether they would be a success or failure in the world. Concerning the curriculum set before them he said it had been evolved for them and was the result of the thought and experience of genera-

tions. They must not think, then, that any part of it was superfluous or unnecessary. At the same time they must learn to think for themselves. Let them look upon their teachers as friends, and bring their difficulties to them. It would give the latter great pleasure to assist in relieving them of their burdens. Addressing those students who, before the next session opened, would be entering upon their professional career, he said that, given industry coupled with a good moral character, they were tolerably certain of making a moderately good living. It was not a profession in which there were many large money prizes, but on the other hand there need be no blanks. It was a profession that teemed with interest for all who loved animals and desired to alleviate their sufferings. Be gentle and kind to your patients (continued the Professor), never give them unnecessary pain, do not tolerate cruelty in any form. (App.) Having referred to the beneficent results of anæsthetics and antiseptic treatment, he urged them in all they did to seek to raise the dignity of the profession to a level with other learned callings.

Turning to subjects of interest not only to the profession but to the public, Professor Shave dilated upon the demonstrated effectiveness of Dr. Koch's tuberculin as a diagnostic agent in cases of tuberculosis in cows, quoting in this connection the successful results of Professor Bang's system in Denmark, and also quoting the statement of Professor M'Fadyean before the Royal Commission on Tuberculosis, that he had complete confidence in tuberculin as a diagnostic agent when used uuder proper conditions. "It is not a reliable test," as Professor M'Fadyean said, "when used on cattle in a market or slaughter house, or on any cattle that have been shipped or trained, or otherwise excited. Using it on animals in their own premises, I have found that it is practically infallible." Professor Shave remarked as an anomaly of the law that while milk might not be adulterated with water —even pure water—it might be sold when derived from a cow with a diseased udder, and therefore contaminated. It was a fact tubercular disease was prevalent in udders of cows in this country, that milk drawn from cows with tuberculous disease of the udder contained tubercular matter, which, if taken uncooked as food was infectious, producing disease in men as well as in animals. It was a fact that milk containing tuberculous matter was exposed for sale and sold for human consumption; that the manifestation of tubercle in children—*tabes mesenterica*—was generally believed to be caused by the ingestion of tuberculous matter; and that this manifestation of tubercular disease is not diminished in anything like the proportion of other manifestations during the milk drinking age, thereby pointing to milk as the cause. There was not at present any law to prevent the sale of milk containing tubercular matter likely to desseminate that disease from which, it was said, one seventh of mankind died, and through which children suffered for years. The remedy for the evils he had pointed out was available in the use of tuberculin.

Passing to other matters, Professor Shave referred, in conclusion, to the honour done the veterinary profession by the Government in making the veterinary adviser of the Board of Agriculture a knight; and he noted with pleasure, too, the distinctions bestowed upon Professor Penberthy and Mr. Trigger. (App.)

Sir. G. T. Brown, in moving a vote of thanks to Professor Shave for his address, said that gentleman had travelled over a great deal of ground but he had, with becoming modesty, made oneo mission, and that omission gave him (Sir George) the opportunity of calling their attention to the great importance of the subject which it was the duty of Professor Shave to teach. Without some knowledge, indeed without an intimate knowledge, of the structure of a piece of machinery, one would hardly attempt to repair it, and they might depend upon it that all their spare hours devoted to work in the dissecting room would prove of the utmost advantage to them in their future career. To be able to look at an animal as it stood and see plainly in the mind's eye the position of every part of its structure, would give them an amount of coolness and confidence in their operations and clinical procedure which they could acquire in no other way. The subject of anatomy had another feature that commended itself to him particularly. It was a subject of fact and not of opinion. In anatomy they used not to say "this or that is my opinion," but a bone was a bone, and a muscle was a muscle. He had had great pleasure in listening to Professor Shave's paper.

The motion was adopted *nem. con.*

Professor Shave thanked the assembly for the kind way in which they had received him.

Professor M'Fadyean then read the names of those students who had been successful in obtaining prize honours in the way of medals and certificates during the last session, and remarked that the mere reading of a prize list afforded no indication as to the general success of the session. In one very important respect the past session was probably the most successful in the history of that College, that was, in respect of the number of students who were successful in gaining their diplomas or passing examinations. He had added up the figures and he found that in the July examination—the principal examination of the year—150 students presented themselves at the Royal College of Veterinary Surgeons, and of that number 110 passed—a percentage of 73 passes. When he considered that the examinations of the Royal College of Veterinary Surgeons as now conducted really constituted a very searching test, he thought the result was highly creditable, and he thought the teachers of that school might, without immodesty, claim some share of the credit of that result. (App.) But he was quite sure that all his colleagues agreed with him when he said that this gratifying result was mainly due to the unusual intelligence and diligence which the students themselves had brought to bear upon their studies. They were just at the beginning of the new session and they all hoped that it would be as successful as the last one. He had very little doubt that if the students followed the admirable advice of Professor Shave, they would have nothing to fear at the end of the session. He (the Dean) thought the Professor laid great stress upon the importance of punctuality, and he took that opportunity of calling the students attention to the fact that the session seriously began on the morrow. All the lectures and divisions of classes for practical instruction would virtually begin on the morrow as the time table showed.

Dr. Crookshank, in moving a vote of thanks to the Chairman, said if they were agriculturists or landowners or veterinary surgeons they all knew how intimately agriculture was associated with the veterinary profession. He ventured to say that no Minister of Agriculture who had ever held that post had done more, or wished to do more for the prosperity of agriculture in this country than Mr. Long. And they knew that the prosperity of the farmer must necessarily tend to the prosperity of the veterinary surgeon. He often thought that in these days when they heard so much of inoculation and of tuberculin, and of those subjects about which it was not for him to say anything, that they were liable to overlook one of the greatest of the advances of the present century that was initiated entirely by the veterinary profession. They were apt to overlook the great work that was carried out against very formidable opposition, in adopting the principles that were commonly known under the heading of "Stamping out animal plagues." Now this work of stamping out epidemics in animals began with the cattle plague of 1865, and was carried out by the veterinary profession. In this respect the veterinary profession was a long way ahead of the medical profession, because

those principles embodied in the methods of stamping out animal plagues, methods of disinfection and of isolation, and of slaughter, were subsequently adopted by the medical profession, short, of course, of slaughter. In a modified way they had been adopted by the medical profession. He did not think that the work of the veterinary profession in initiating methods of stamping out animal plagues, had ever been sufficiently appreciated by the general public. They welcomed Mr. Long that day for, among many other reasons, the loyal way in which he had adopted those methods regarded by the veterinary surgeons as the best means for stamping out animal plagues. He (Dr. Crookshank) imagined that he saw a little look of depression on the face of some pathologists when Mr. Long entered that room, and he could only explain that on the ground that he had been so successful in exterminating and keeping out of the country so many of the animal plagues that pathologists were deprived of a good deal of material for research. There was one more reason which he would mention which made them all give a very hearty welcome to Mr. Long that day. Whether they were governors of that college or members of the staff or students, he was sure they must all appreciate this fact, that the circumstance of a Cabinet Minister deeming it worth while to attend the introductory lecture of their session, and to take the chair in the absence of another gentleman, was a gratifying evidence of his recognition of the great work that was being carried out in that school. He (Dr. Crookshank) was bound to say as a governor—and he thought his view was shared by his colleagues—that the work effected in that college was not sufficiently appreciated by the public. Having regard to the fact that a leading public man was willing to come down and join them in the opening of their session, it was a just recognition for which they were deeply grateful.

The motion having been carried by acclamation,

The CHAIRMAN said: My Lord, Mr. Dean and gentlemen, I am very much obliged to the proposer of this resolution for the kindly terms in which he introduced it to you, and I am grateful to you for your warm reception of the proposition. I am quite ready to accept what he has laid down, namely that my presence here to-day is to be regarded as a proof of the interest taken by the outside world in your great profession and in this great college. I say this because I am confident that it is a simple fact that the interest taken in the work of your profession, and in the methods in which the students of your profession are being prepared for their future active life, has been largely growing owing to the increased importance which people outside attach to the veterinarian's art. I listened, with the greatest possible gratification and interest, to the introductory address of Prof. Shave and I am very glad indeed, if I may be allowed to say so, that he selected for the main portion of his address this very interesting and important question of the elimination and, possibly, the stamping out of tuberculosis. I believe that the veterinary profession can aid a very great deal to forward this movement apart from any action which it may be necessary for the government to take. All that the Royal Commission on Tuberculosis recommended the government should do was, in the first instance, to provide the tuberculin at a comparatively small cost, and, in the second place, to pay a fee in order to secure that a properly qualified veterinary surgeon should carry out the operations. Well, gentlemen, the Royal Commission estimate that the cost of tuberculin should be about threepence per dose, and the cost of the individual application of the test would be about 2s. 3d. or 2s. 6d. I think altogether in each case. Well, I do not want in any way to seek to evade the responsibility which must always rest upon the executive government in matters of this kind. I have said elsewhere what I am prepared to repeat here, namely, if I can only be satisfied that there is a general desire to make use of these opportunities, there certainly will not be any unwillingness on my part in approaching the Treasury to obtain the necessary consent to the expenditure. (Applause.) But I should like to impress this upon you—some of you who are now moving actively in the world and others who are preparing to do so—that if a remedy of this kind is as effective as science now tells us it is, surely it can hardly be necessary for the government to step in with a payment of 2s. 3d. or 2s. 6d. per cow in order to induce owners of horned stock in this country to take advantage of so beneficent a discovery. The real truth is that those men who have got the knowledge which is of such immense value—the accurate, scientific knowledge which enables them to see not only the remedy but to give the reason for the faith that is in them—do not make a sufficient use of the opportunities daily presented to them to enthuse their neighbours and the public generally with their own confidence and their own belief; and I am sure, if you accept the advice given you by Professor Shave and do your best to make these facts known, that then the public will take greater interest in such discoveries. I think, perhaps, that the discovery with regard to tuberculin may not unfairly be described as one of the most important that has ever been made, because if it is carried out, and success continues to attend these operations, not only shall we eradicate that disease which has especially caused great loss to owners of stock in the country, but scientists tell us—and the news is welcome indeed—that simultaneously with the eradication of disease amongst cattle, will come the eradication of that terrible disease—consumption—amongst human beings, a disease that has brought sorrow to so many homes, and was so long regarded as incurable and unpreventable.

Therefore, we have a double object to work for. I am not going to trespass much upon your time. It gives me great pleasure to be here, and I wish you all success and prosperity. I regret the circumstances that have made it necessary for me to fill the chair. We should all have been glad if Sir Henry Ewart had been able to be present. I shall be glad, as long as I occupy the position in the Government I do now, and afterwards in my private capacity, to give proof of the interest I take in the great profession to which so many of you belong and others are about to belong. If I may add one word to the wise words spoken already by Professor Shave, I would say this: that I believe there is nothing more important to members of the veterinary profession when starting upon their careers than that they should make up their minds to do everything in their power to raise and maintain the standard of their profession throughout the country. (App.) Great strides have already been made but there yet remains room for improvement in some respects. I know how hard the battle is which a professional man has to wage when he occupies the dual position of adviser to clients on the one hand, and on the other hand some public position which forces upon him the unpleasant alternative of either discharging his public duty and thus offending his customer and losing his patronage, or failing to fulfil his public duty and thus retaining his private client. I would respectfully say to members of the veterinary profession, present and future, that they would do well in their own interests and in the interests of the great profession to which they belong, or hope to belong, if they will do their utmost to win in this struggle, and always to put the great public interest before individual private advantage, however immediately embarrassing this may seem to be. If they succeed in doing that they will do more, I think, to raise and elevate the standard of the profession than by any other means. (App.) I thank you for the manner in which you have received me this afternoon, and I

wish prosperity to those young men who came here with a view of elevating themselves to one of the greatest and noblest professions which it is possible for a man to follow. (App.)

The proceedings then terminated.

VETERINARY SOCIETIES.

NATIONAL VETERINARY ASSOCIATION

TRAUMATIC DISEASES OF THE HORSE'S FOOT.

By W. Williams, F.R.C.V.S., F.R.S.E.

Abstract of paper presented at the Sixteenth General Meeting, at Leeds, August 11th.

The Committee having determined that the diseases to be considered in this paper should be of traumatic origin have rather tied my hands by giving me such short text for my subject, however I must do the best I can, and crave that I may depart in one particular from the limitation by making some brief allusions to Laminitis, not due to traumatic causes.

I should strongly recommend—and this applies more particularly to the younger members of the profession—not to neglect the removal of the shoe and examination of the foot in all sudden cases of lameness, although there might be evidences of alteration of structure in some part of the limb; in cases, however, where the lameness has gradually developed, the urgency of removing the shoe is a matter of opinion, it may be necessary or not.

The most common traumatic cause of lameness in the forefoot, in my experience, is due to pressure of the shoe inducing corns, and this more particularly in towns where the streets are paved; here it is almost impossible with ordinary shoeing to prevent the occurrence of corns, no matter how good and strong the foot may be, and how careful the shoeing, especially if the horse has fairly high action.

Corns are confined to the fore feet, a corn in a hind foot being so rare as almost to be non-existent, I have certainly seen some indications of bruising at the seat of corn in the hind foot but, like sidebones behind, they need hardly concern us.

Corns result from bruises involving the sensitive structures embraced between the bars and the heels, most frequently in the internal aspect of the foot, *i.e.*, inside heel, and due to pressure causing hæmorrhage from the sensitive sole, laminæ of the bars, or even from the laminæ of the wall, appearing as a red spot or spots, when the horn is pared. It is stated that no inflammation follows unless the blood becomes infected. If it be meant by this that no lameness results unless there be infection by micro-organisms, I must at once say that I cannot accept the theory, for if infection occurs suppuration must result, whereas corns cause lameness when there is no suppuration. It is very true that if a corn becomes neglected it may be converted into what is termed a festering (suppurating) corn, and most probably micro-organisms do become additional factors in intensifying the lameness.

(*a*) *Non-Suppurating Corn.* It is the usual and very common practice, after removal of the shoe, to pare down the corn almost to the sensitive structures, and this is done at every shoeing, much to the discomfort of the patient; then, perhaps, with a bar shoe and leather soles the horse in a few days may be able to do some work. Now I maintain that this is entirely wrong, that it sometimes leads to suppuration, particularly if the paring has been too close and the vascular structure wounded—it is in fact cutting down the foot to fit the shoe, or rather weakening the foot in order to prevent pressure from the shoe. Instead of this I remove the portion of the shoe which covers the seat of corn, and I have the animal shod with a "three-quarter shoe" and leave the horn as strong as possible after satisfying myself that the corn is there. Some horses go tenderly for a few days with this kind of shoe, but before the end of a week they are generally quite sound, and will remain so if continued to be shod in the same way. If the foot has been tampered with, the horn cut away, the sole weakened by paring, the animal should remain without shoes and have his feet in cold water, or poulticed for a few days, then the "three quarter" shoes may be put on, leather soles being perhaps necessary adjuncts.

(*b*) *Suppurating Corns* are generally due to the too close paring of the sole, thus exposing the vascular structures, or to great neglect in the removal of the offending shoe. The treatment is—after removal of all detached horn—give free exit to the pus from below, or if the pus has burrowed upwards towards the coronet and be perhaps laying the foundation of a quittor, the detached portion of the wall should at once be removed. After being antiseptically dressed the foot should be enveloped in an antiseptic poultice, or, if dry dressing be preferred, as in severe hind foot cases, the raw surfaces should be dressed antiseptically and enveloped in antiseptic tow or oakum, retained in position by proper bandages, and as the formation of new horn progresses, tar dressing and non-interference. In this way a quittor may be prevented.

I say nothing about "conformation" being a predisposing cause of corn, as I see them in all kinds of horses required for speedy work, particularly on hard roads. Cart horses seldom have corns. We must therefore conclude that the concussive shock is the general and most frequent cause. Hunters have corns but they seldom cause lameness so long as they are worked on soft ground.

Both in festered corn and all other injuries to the foot there is a tendency to what is supposed to be the formation of fungoid growths—proud flesh. The supposed proud flesh is generally the congested and swollen sensitive structures, which sprout when the horn covering them has been removed, and thus obtain ease by diminished pressure. In all such cases search should be made to detect if any sharp piece of horn be pressing on the borders of the swollen tissues; if so, it should be carefully pared, and the irritation thus removed. The parts should then be dressed with a mild astringent and antiseptic dressing such as a diluted goulard extract and carbolic acid. If, however, after the horn has been removed the tissues remain prominent for some days, and are paler in colour, strong astringents and caustics may be advantageously used, but I recommend great caution, as I have seen the irritation and the sprouting of the supposed fungus greatly increased by such application.

Punctures of the Feet.—These may be divided into three kinds, namely, (1) Pricks in shoeing, (2) Too close nailing, and (3) Gathered nails. The first and second may be described under one head, the only difference between them being the thickness or depth of the puncture; in the one case the sensitive structures are actually pierced, whilst in the other there is no actual penetration of the nail into the sensitive structures, but it is inserted so closely that it causes some bulging of the horny laminæ of the inner aspect of the wall, so as to cause pressure on the sensitive structures within.

The detection of a drawn nail is sometimes difficult, as the course of the second insertion seems clear and plain, and can be traced from the solar aspect to its exit through the wall; but a careful examination, if the searching be done without causing hæmorrhage, will demonstrate the course of the drawn nail by revealing a small dark discoloration of the horn; this must be searched to its termination when, perhaps, some degree

of suppuration will be found. If the lameness and fever become more rapidly pronounced, say in from 12 to 24 hours, the horse may be cast, chloroformed, and the wall covering the seat of the injury, as well as the necrosed tissues, both soft and hard, removed. I have in a few cases been able to remove the necrosed material without "stripping," but greater satisfaction is attained by doing the thing thoroughly. The after treatment consists in dressing the parts antiseptically by covering the exposed sensitive surface with boracic lint or antiseptic cotton-wool, then packing with dry tow, retaining the whole in position by proper bandages—not string, as is often the case. Now comes the question of poulticing. No doubt relief is often given to the animal by placing the foot in a poultice. Some say warm, some say cold, for my own part, when much pain is present I prefer warm. There are two great objections to the invariable use of poultices :—

1st. If left to the care of the majority of stablemen they are apt to forget to change them, when, if bran or linseed meal be used they soon become dry and solid, and if any of the bran or linseed scales or husks gain access to the exposed sensitive structures they are very apt to cause increased irritation.

2nd. In severe hind foot injuries the horse is very apt to lift the foot from the ground, hold the leg in the flexed position causing the poultice to drag, and by increasing the weight induce increased irritation, intensifying the fever, and the general state of irritability.

In such cases I maintain that poultices are contra indicated, and that light antiseptic dressings should be recommended. If it be deemed necessary to apply moisture, the foot and dressing can be saturated with water repeatedly during the day, or the foot placed in the fomenting tub. But there are objections to the fomenting tub, namely, the horse often objects to keep his foot in it but keeps continually lifting it out, and thus often increasing the irritation and fever; this, as well as the damage which is induced by the edge of the tub to the posterior part of the leg and hock, destroys any benefit that otherwise might be derived. With regard to continual irrigation, if the appliances are convenient this method may be tried, but I must say that the more expsrience I have the more inclined I am to favour light and dry dressings as less prone to favour the development of micro-organisms, being less irritating to the patient and repuiring far fewer renewals and interferences than the wet ones.

In an ordinary "prick" the usual treatment of removing the shoe, paring out the horn and giving free exit to the pus, dressing antiseptically and poulticing, if not contra-indicated, are quite sufficient to effect a cure, care being taken when the horn is pared that no ragged edges are left to press upon the exposed sensitive tissue. If, however, the lameness and other symptoms do not become modified, say in two days, further search must be made, necrosed tissue exposed and removed as above stated.

Gathered Nails.—Nails or other pieces of sharp penetrating substances are frequently picked up, more especially by horses working in engine making yards, railway stations, forges, packing yards, and less frequently on roads and in fields, particularly where town manure is used. It is but seldom that the sole is punctured, the usual seat being one of the commissures of the frog. Of course it must be understood that a sharp pointed piece of iron may penetrate any portion of the sole or frog, but penetration at any part except at one of commissures or cleft is uncommon. The gravity of the resulting consequences will depend upon the depth and site of the puncture. If superficial, removal of the offending body and "dressing out" the part will generally be sufficient to restore soundness in a short time, but if deep, and when the pus has been incarcerated, even if the navicular bursa has not been penetrated, the consequences may be very serious. In all cases, whether the bursa has been penetrated or not, the puncture must be searched; of course even the captious critic will understand that the offending body must be first removed and the hole thoroughly bottomed, all detached horn removed and free exit given to the confined discharges; when this is done the parts are to be dressed antiseptically, syringing in the antiseptic dressing if necessary, covering over with antiseptic cotton wool, and the whole foot enveloped in tow secured by bandages, and if no necessity arise for removal, left undisturbed for several days, the horse being placed in slings. Daily dressing and meddlesome interference must be avoided.

If the navicular bursa is not penetrated a continuance of this method of treatment should bring about some amelioration of the symptoms in the course of a week or so, but if there be a synovial discharge the intensity of the lameness may continue for a longer period, and yet the patient recovers eventually. If however the discharge becomes reddish in colour, the lameness meanwhile persisting and even becoming more intense, the case is to be looked upon as one of great gravity, as necrosis of the flexor tendon and probably purulent inflammation of the navicular bursa have resulted and will necessitate, after the failure of other methods, of an operation for the partial or complete resection of the flexor tendon. Whether the "partial" or the "complete" operation be decided upon, the animal must in all cases be cast and chloroformed, a tourniquet applied above the fetlock and according to one method, the horny sole, bars and frog are entirely removed; then a transverse incision is made through the base of the fibro fatty frog (at the level of the posterior border of the navicular bone) and the anterior portion of this structure removed by two incisions along its commissures meeting at the apex. The plantar aponeurosis or expanded portion of the flexor tendon is thus exposed and will be usually found softened and gangrenous. Its terminal portion is to be removed by a transverse and two laterial incisions, as indicated above for the removal of the plantar cushion. The insertion of the tendon into the semi-lunar ridge as well as the cartilage of the navicular bone are to be carefully curretted with a Volckman's spoon.

The entire removal of the horny sole, bars and frog seems to me to be unnecessary. The "partial" operation, sufficient in the less serious cases, consists in thinning down the sole, frog and bars. The sinus or sinuses are then to be opened up by the removal of an elliptical piece of the plantar cushion, so as to lay bare the aponeurosis, which is then to be scraped, or if deeply necrosed, a piece should be cut out.

After the operation, "partial" or "complete," is concluded the parts are to be asepticised by irrigation with a solution of bichloride of mercury, 1 in 500. The cavity is filled with cotton wool saturated with the antiseptic, the foot enveloped in antiseptic tow or wood-wool—maintained in position by proper bandages, and kept dry.

Fracture of Pedal Bone from torn shoe and treading on the clip.—This is a most serious accident, and if not attended to and the fragment of bone removed as soon as possible is apt to induce an intense irritative fever and death.

The treatment is to remove the sole and wall if necessary, at the part of the foot wounded, remove the fragments and treat antiseptically, and in this and all cases where there is much pain, I administer draughts containing tr. opii., or use hypodermic injections of morphia. With regard to purgatives they no doubt frequently diminish fever and relieve pain, but if the horse be in slings their use must be carefully avoided, constipation, if there be any, being relieved by enemas.

Quittor, as you all know, arises from treads, pricks,

suppurating corns, and inflicted injuries to any part of the foot or coronet, or succeed grangrenous disease of the coronary substance, as from frost bites.

In some instances, suppuration commencing within the foot discharges itself superficially, and the lameness quickly disappears, but in other cases the suppuration is deeply seated, and failing to obtain easy exit gives rise to the formation of fistula, inflammation, and necrosis of the perichondrium surrounding the lateral cartilage, or an involvement of the cartilage itself.

The Treatment.—I have employed various remedies and resorted to some operations for the cure of quittor. I have in some instances opened up the fistulæ with a Bistourie caché, or have inserted setons through the sinuses, made longitudinal breaches in the skin in order to expose the interior of the fistula or fistulæ and form them into a superficial common wound ; have used corrosive sublimate, arsenic and other caustics ; have filled the sinus with calomel and acetic acid, highly recommended by some practitioners, but have now arrived at the conclusion that the most successful method, after thinning the wall of the foot below the fistulous opening and determining the course and extent of the sinus, is to cast the horse and make a counter opening through the wall, below the terminal end—so far as can be ascertained—of the sinus with a pointed actual cautery, extending the canal thus made into the sinus, itself and even out at the surface. The cautery, sharp pointed, must have a thick neck in order to make a good sized orifice below, as the tendency is for the lower opening to close too soon. By moving the point of the cautery from side to side, the sinuses, if there be more than one, can thus be made into a common drain and the discharges allowed to escape through the inferior orifice. After the operation is completed the cavity is to be thoroughly irrigated with a disinfectant fluid and any charred tissue washed out ; then the orifices may be covered over—but not so closely as to prevent the escape of the discharge —with cotton wool or tow, made antiseptic and maintained in position by an antiseptic bandage. If there be much pain after the operation the foot might be placed in a foot bath—I prefer a warm one—until the pain has somewhat subsided. In a few days the lameness will, in most instances, have become very much modified and the case in a fair way of recovery. If the lower opening has a tendency to close before the cavity has healed from above, it must be kept open by either the re-insertion of the cautery or by an escharotic plug. A blister is often very useful, ameliorating the lameness, exciting a more healthy reparative process, and assisting in diffusing the coronary enlargement.

Laminitis.—I must crave the committee's pardon by here transgressing the terms of the paper, or rather going beyond its scope, but in justification I must plead that I, individually, whatever may be the opinion of others, consider my views are sufficiently important and sufficiently matured, to be brought before the notice of this association.

Without entering into a description of the symptoms, or of the pathological alterations in the feet, I will at once state that I consider acute laminitis occurring during the progress or as a sequel to diseases of mucous membranes, is one of the forms of septic infection, and I arrive at this conclusion from the fact that this condition is only seen as a complication of muco-enteritis, metritis, bronchitis, or broncho-pneumonia.

I will call the reader's attention

1st. *To the conditions leading to the establishment of laminitis after parturition in the mare.* It is well known to most practitioners that if uterus or vagina be wounded during the act, or if the fœtal membranes be retained and putrefaction commences—and it sometimes commences in a very few hours, that symptoms of the gravest character are apt to arise, viz., high irritative fever, with great rapidity of the respiratory movements, much uneasiness, straining from a discharge of large quantities of coffee-coloured fluid from the uterus ; the distress and agony are intense and, very shortly after the outset of *metritis*, symptoms, of the most acute form of laminitis, generally involving all four feet, are manifested, and the animal very frequently dies after a few hours intense suffering.

2nd. *Laminitis as a sequel to bowel irritation.* Arising from colic, particularly flatulent colic, enteritis : purgation arising from some unknown cause or from the administration of an ordinary purgative ball. In all these conditions there is more or less irritation and diminished vitality of the mucous membrane, which is thus rendered incapable of resisting the invasion of microbes or their ptomaines : these products entering the circulation seem to have an affinity for the sensitive structure of the feet and there establish a reactionary process, which we term inflammation.

3rd. *A horse has bronchitis.* I must state, however, that I have only seen laminitis succeeding to one form of bronchitis—namely that form characterised by profuse discharge of catarrhal products and called in human medical practice—"suffocative catarrh." I say succeeding the bronchitis ; for in the few instances that have fallen under my observation, if the primary and acute disease had passed off and the animals had been in an improving state for ten days or a fortnight, or even as long as five weeks, feeding fairly well and putting on flesh, then when flattering myself on a successful issue, signs of complications—in the form of swollen joints or laminitis have become apparent—then diarrhœa has generally set in ; these symptoms varying in intensity, some disappearing but to re-appear after a short period, and finally the animals have in all instances succumbed.

Not to dwell upon the mere theory, I hope that it will be food for reflection and consideration of the profession. I would desire to point out its practical application when originally affecting organs which can be practically disinfected, namely, the uterine and gastro-intestinal. Here we can attempt to destroy or modify the organisms by the direct application of germicides. Acting upon my deductions that the irritative fever and laminitis are due to septic infection, I have, by administering hypo-sulphite of soda in water in two ounce doses every four hours, or carbolic acid in ½ an ounce of the fine crystalised acid in water or in wheat meal gruel every six hours, been able to bring about an amelioration of the symptoms in a short time, and often a complete restoration to health without any structural alteration of the feet.

In parturient metritis the antiseptic method of treatment has been adopted with success, the uterus is frequently washed out with first of all, a weak solution of corrosive sublimate 1 in 1000, which is to be removed by flushing with water containing some hypo-sulphite, which is to be continued at the succeeding irrigations. I find that the injection of tr. opii in two ounce doses in a pint of water gives relief to the pain in some instances.

With regard to the treatment of laminitis succeeding to bronchitis I have but little to say, the few cases that I have met with having succumbed, although antiseptic fumigations and intra-tracheal injections were resorted to.

It must of course be understood that I do not neglect other necessary treatment, such as removal of shoes, lowering the wall to the level of the sole, the application of hot cloths or poultices to the feet, and compelling the animal to lie down when he is inclined to stand. Here I may state that I consider the placing of an animal suffering from laminitis in slings, and thus preventing him from lying down, is a gross piece of cruelty. Many a time have I found that a pulse of perhaps 100 has gone down 30 beats in less than half-an-hour after the animal had been cast. There are other traumatic—and some

doubtfully so—diseases of the feet, such as sandcrack, false quarter, keratomatous tumours, which I have not dealt with in this paper. I may here state, however, that I find the V shaped groove with a transverse groove at the upper end of the sandcrack to be a very successful method of treating sandcrack, it is an operation that can be performed during the most acutely inflamed and painful state of the foot, giving ease to the horse by limiting the movement of the tissue. This is far superior to the method of stripping or of clasping as sometimes practised.

EASTERN COUNTIES VETERINARY MEDICAL SOCIETY.

The autumn meeting was held at the Royal Assembly Rooms, Great Yarmouth, on Monday, September 22nd, under the presidency of Mr. James K. Gooch, Holt. The other members present were: Prof. N. Almond, Chelmsford; Messrs. J. D. Overed, Blofield; Sidney Smith, Lowestoft; W. Shipley, senior and junior, Yarmouth; R. Howard, Thetford; C. Clarke, Reepham; J. Pollock, Norwich; P. Turner, Ixworth; T. E. Auger, Wymondham; W. Turtill, Wickham Market; F. M. Wallis, Halstead; W. M. Reeman Bury St. Edmunds; A. S. Auger, Saxmundham; Vet.-Lieut Larnder, Colchester; and the hon. sec., F. B. O. Taylor, Weston: and as visitors, Messrs. Parker and W. H. Gooch.

Letters regretting the inability of the writers to attend were received from Prof. J. M'Fadyean, Sir Henry Simpson, Prof. Hobday, Messrs. E. Faulkner, Jas. Cleveland, W. Westgate, H. L. Roberts, Wm. Bower, C. C. Nestling, W. Wragg, J. E. Kitchen, E. Margarson, and T. G. Heatley.

New Members.

Mr. G. H. Martin, of Witham, Vet.-Lieut. Larnder, of Colchester, and Mr. T. W. Rogers, of Saffron Walden, were elected members of the Society. No fresh nominations were tendered.

International Congress at Baden-Baden.

The Hon. Sec. read a letter from Mr. Cope, Veterinary Officer to the Board of Agriculture, directing the attention of the Society to the International Veterinary Congress to be held at Baden Baden in 1899. The individual subscription was stated to be 12s.

Mr. W. Shipley, jun., proposed that the President should become a member and subscribe to the Congress on the Society's behalf. Their principal object in doing this would be to obtain copies of the reports of all the papers, lectures, and discussions, that might be given and held.

Prof. Almond seconded, at the same time observing that other members of the Society could of course become members of the Congress on their own initiative. The meeting assented.

Next Meeting.

Mr. Sydney Smith proposed that the next meeting, which will probably take place in February, 1899, be held at Norwich. Mr. T. E. Auger seconded.

Mr. Howard said he had been asked to invite them to hold their next meeting at Diss, but he agreed that it would be best to hold the winter meeting at Norwich, which was so central and easy of access from all parts. Probably they could go to Diss next spring.

Norwich was unanimously selected as the next meeting place.

The Late Mr. Dalby.

The Chairman made sympathetic reference to the death of one of their members, the late Mr. Dalby, and moved that a letter of condolence be sent to his widow as a mark of their respectful sympathy with her in her sad bereavement. Mr. Dalby, he said, was well known to all of them, and his early demise was a matter of regret not only to his profession but especially to the inhabitants of the place in which he lived. He was cut off in the prime of life, and his loss was a source of grief to all who knew him.

Mr. A. S. Auger seconded, and the meeting assented.

Pathological Specimens.

Mr. Shipley, junr., produced a bottle containing a portion of the tongue of a horse, with the following interesting explanation. On Monday, the 19th inst., he said, he was sent for to look at a mare When he arrived, she was at the point of death. On opening her mouth, he found it full of evil-smelling fluid, whilst the skin was peeling off the tongue. He could not understand the case at all. The animal's temperature was about 106, and he suspected some kind of septic poisoning. He would not have attached much importance to it, but in the evening three more horses belonging to a second farm were attacked in a similar way. He found them with their tongues protruding, and their mouths very sore, as though from burning. Their temperature was about 102 or 103—nothing out of the ordinary—but they were undoubtedly very sick and bad. They were stabled only 100 yards away from the first patient, and none of them were then at work, though all the other horses on two farms were out. They were eating hay, pollard, and crushed maize, and though he suspected something must be wrong with the food, he could find nothing to confirm those suspicions. The first horse died, and he made a post-mortem. He found the stomach healthy and full of food, but with a deal of thickening about one part of the stomach, and the small intestines were full of bloody fluid. He cut off the portion of tongue produced, and expressed the opinion that these animals had had some corrosive acid—probably sulphuric acid. It was difficult to state the nature of the poisoning, or even to suggest such a thing, but it looked very much as though that was the cause of the illness. The other three horses had all lost the coatings of their tongues, but otherwise were getting on well.

Replying to a running fire of questions, Mr. Shipley said he could think of nothing else but sulphuric acid that would produce the effect he had described. He had sent the contents and a portion of the stomach away for analysis, but had not yet heard the result. The mare was quite well at 8 p.m. on the Sunday evening. She became suddenly ill half an hour later, but he was not called until the following morning, and she died at 10.30 a.m. The digestive portion of the stomach was slightly discoloured red, but the other parts were beautifully white. The lower lip had the appearance of being burned. The lips of two of the three colts were burned, and covered with little round swellings, and the mucous membrane inside was burned away. The owner of the horses had no reason to suspect foul play, and, indeed, laughed at the suggestion of such a thing.

Mr. A. S. Auger suggested that mayweed was productive of the symptoms described. It was hardly likely to have been sulphuric acid.

Mr. Shipley: The animals were being fed solely on hay, pollard, and crushed maize. The mare that died was 15 or 16 years old, but the other three were merely colts.

Prof. Almond suggested that it would be well to postpone the discussion until Mr. Shipley received the results of the analysis. He, for one, should await that result with great interest. The tongue did not appear to him to have been affected by acid—but it might be so. There were a few isolated spots, but the skin all round was perfectly healthy.

The discussion was then postponed as suggested,

Mr. SHIPLEY also produced part of the larynx of a "roarer"—one of the worse he ever saw, he said—showing complete atrophy of the muscles, together with a specimen of ulcerated œsophagus.

The HON. SECRETARY then described a curious and unique growth in the body of a fine red poll bull, owned by the late Mr. J. J. Colman, and valued at more than £300. He was called to attend the bull, he said, a few weeks ago, it having suddenly fallen off his feed. At first he thought it had merely taken a slight cold, as the temperature was 102, and the pulse 72. Its condition scarcely varied for a month, which was the duration of its illness, it would touch very little food of any kind. From its looks one would have thought little was amiss with it, but showed occasional symptoms of pain. On opening the body he found a huge strange growth—a kind of solid mass of fat—completely surrounding the bowels. The fat had so compressed the bowels that they would scarcely admit a cedar pencil. He produced a portion of the growth, and said he had forwarded another portion to Professor McFadyean, who assured him it was almost unique, he being able to remember only two other records of a similar nature.

Professor ALMOND observed that the mystery of both the specimens—the growth, and the burnt tongue shown by Mr. Shipley—was equally great. The case described by the Hon. Sec. was to him perfectly unique, and, on his motion both gentlemen were heartily thanked for their interesting specimens.

VETERINARY OBSTETRICS.

The rest of the afternoon was devoted to a discussion on the paper on "Veterinary Obstetrics," read by Mr. J. Pollock at the previous meeting at Norwich.

Mr. SIDNEY SMITH, in opening the discussion, said he agreed with Mr. Pollock what he considered to be the essentials of a good obstetric surgeon, viz., manipulative dexterity, sound judgment (or, in other words, common sense), and good muscle. Of all the new instruments Mr. Pollock had brought before their notice he considered the steel spring band to be the most useful. It could be used in every case where they found it necessary to pass a cord. They often met with cases in which it was necessary to get the cord round a particular part, and this band would be excellent for that purpose. A veterinary surgeon was seldom called to a natural presentation at which the farmer, or his son, or the stockman, had not had a try first. He once happened to call at a farm just as a heifer was calving. He found a shorthorn heifer, very fat, with breech presentation. All the parts were so swollen that there was great difficulty in introducing the arm at all. He found he could not remove the calf—perhaps some of Mr. Pollock's instruments would have removed it—and his advice to the farmer was to have the heifer slaughtered at once. In this case of course he did not have a fair chance, because the men at the farm had been trying, and their efforts had swollen the parts to an extraordinary extent. Referring to the other instruments, Mr. Smith said he could not see that the large ecraseurs (Nos. 2 and 3) would be very effective, though he liked the look of the obstetrical harpoon and guillotine. Yet he doubted whether these instruments could be used with the ease Mr. Pollock represented. With the parts much swollen there would be little room for the introduction of instruments of such size. One difficulty in the way of using the instruments was the fact that a veterinary surgeon met with some difficult cases when out on his country rounds. Instruments of that size could not well be carried about in a trap, and the facilities of railway and telegraph seldom lay handy, so when they did happen to want the instruments, they would often be unable to have them.

The CHAIRMAN said there could be no doubt that obstetric cases were the worst they had to deal with, anyone who could do anything to facilitate the operator's work conferred a great benefit upon their profession. Mr. Pollock was certainly one of those benefactors, for he had introduced instruments which were perfectly new, and suggested some new methods of operating. It was almost too early to speak of the utility of the instruments, for they had not yet been given a practical test. He did not know whether Mr. Pollock had used them himself, but from what he could see he should judge that some would prove to be of the utmost service. The only fault he had to find with them was that they were too cumbersome. Their instruments must be as strong, yet as light as possible. If they were to use instruments of the size brought forward by Mr. Pollock, operators would need the services of a qualified assistant, for they would make a bad hand of them with the assistance of the cowman alone. Then the success of a delivery did not always depend upon the instruments. Recently he met with three cases which gave him much trouble. On introducing the hand he could not possibly dilate the mouth of the uterus. A cow that had had three or four calves previously had been straining for a day, and the herdman was unable to feel the calf at all. He (the speaker) could only introduce three fingers into the mouth of the uterus, around which a tight constricting band had been formed. He parted the band, and managed to extract the fœtus. After three or four hours hard work he delivered the cow and she made a good recovery. That was a case in which the harpoon would have been of great service to him, for he might have passed it through the ribs and brought the calf nearer his fingers. No. 7 in Mr. Pollock's list of presentations presented all the extremities in the passage, but he disagreed with Mr. Pollock's method of operating. It had always been his practice in those cases to secure the hind limbs and return the fore part, and he had delivered eight or ten cases in that way without mishap. By putting back the head and fore legs, and applying traction to the hind legs, an easy delivery might be effected.

Professor ALMOND observed that some of the instruments displayed were remarkable for their simplicity, and others were quite as complex. The simpler instruments would, he believed, turn out to be of greater use than all the rest put together. The spring band was a revelation to the profession, and would, he believed, convert into comparatively simple deliveries those which, under ordinary circumstances, took hours to overcome. Referring to breech presentation, the speaker related an amusing but disquieting experience which happened to him soon after he began to practice. It was not by any means impossible for a cow to be delivered when the calf was presented breech first, with the hind legs forward and the tail presenting. In the case in question he found a cow with breech presentation. The owner's wife told him that her husband wished the animal to be killed if there was any difficulty in the case. It turned out to be a very difficult case, and eventually he undertook to send a butcher to kill the cow. He did not wait, and was very disgusted to what he heard afterwards. When the butcher got there he found the calf had advanced a considerable distance into the pelvis. Being an experienced man he thought he might deliver the cow after all—and he did deliver her. It happened to be a twin calf, and both calves were delivered alive, and the mother lived—without his knowing anything about it for several days! That just shows that one must not be too ready to give up cases without making a great effort to deliver. He remembered a case being delivered on one occasion with one leg back. Mr. Pollock referred to that as being practically impossible. It was of course very rare, and only occurred when the fœtus was small and the animal very roomy. But it was not unusual in the case of sheep and pigs. In fact, they seem to think they could be delivered in any form they liked! He agreed with Mr. Pollock's presen-

tation No. 7. It was easier to convert it into a posterior presentation, because it would be impossible to force the hind legs out of the pelvis, and there would be the danger of the hind legs remaining in the pelvis and giving no end of trouble. With regard to undilatable os, the speaker referred to the case of a heifer which he saw when she had been in pain for 24 hours, and was at full time. He could only introduce one or two fingers into the mouth of the womb. The animal was perfectly healthy, eating, drinking, and chewing her cud, and although disturbances came on from time to time they were not very bad. There was simply uneasiness, and she remained in that condition three days. Eventually she had a natural delivery on the fourth day, and did well. He believed these natural deliveries would be more frequent, particularly with heifers, if more time were given, although practitioners could not always be running backwards and forwards to watch the progress of an interesting case. One question of prime importance in obstetrics was that of irrigation. He thought irrigation ought to be used more commonly, though of course the profession still lacked instruments by which the uterus could be thoroughly washed out. It was necessary not only to inject a large quantity of antiseptic into the uterus, but also to remove every drop after it had done its work. The uterus ought to be washed out after being treated with antiseptic, or else absorption of the latter fluid would cause disturbances. It was still open to someone to invent a system by which they could irrigate thoroughly, and remove the antiseptic after it had been injected. With regard to the removal of the fœtal membranes in a cow it was better to leave the whole than a small part, which might putrefy. It was extremely disagreeable to remove after it had been retained for three or four days, but if the uterus could be thoroughly irrigated it would be better.

Mr. WALLIS agreed that the band was the most useful instrument, and said he had been wanting it for years. Of the others he recommended No. 4, and in referring to its uses, mentioned a curious case he attended last foaling season. A friend of his sent for him after he had been working hard at the case for several hours. It was impossible to effect delivery alive, and so he proceeded to take off the foal's forelegs. He applied traction to the head, but still could not get it. Then he felt something that fluctuated in his hand like a bag of fluid. Making sure that it belonged to the foal he pierced the obstruction and immediately the foal was delivered. Then he found that a serous cyst halfway down the neck had given all the trouble. When the traction was applied it of course bulged out, and formed an effectual barrier to delivery.

Mr. A. S. AUGER agreed that the instruments were good, but said the difficulty would be to have them always with one when one wanted them. He met with his worst cases when driving round the country, and he should not care to take such heavy instruments about with him. At present he felt equal to tackling anything with nothing more than his castrating knife and the swivel hook he had used for 15 years. He described a singular case of foaling in which the mare was delivered during the night, the foal being produced with the hind legs so tightly flexed that it was impossible to draw them out to the extent of half an inch. Concerning irrigation, he said he had often been requested not to irrigate when about to do so, some of his clients believing it best to leave the cleansing to nature. But as a rule he believed irrigation was desirable. He generally left the removal of the fœtal membranes of a cow to nature. He had known them to be left a fortnight without doing any harm.

Mr. SHIPLEY said that although it would be impossible to use some of the instruments without help, he believed several would be of great use. Like Mr. Wallis, he had been waiting for that steel band all his life. Referring to the presentation when all four feet were presented, he said he thought it was best to remove the limbs at the shoulder and make a breech presentation of it at once. It was difficult to put the fore legs or hind legs back in such cases. Now and again, he observed, they heard of cases of monstrosities and malformation in the fœtus, and the removal was generally impossible.

Mr. OVERED said Mr. Pollock had not illustrated one presentation which they often encountered. That was a most difficult one—with the head and two fore legs and one of the hind feet presenting in the passage. He came upon two cases of the kind last year on two separate farms. In one case he took off the two fore legs, and managed to get the foal away, but the mare died. In the other case, she was dying when he saw her, so nothing at all was done. Such cases were more difficult than those presenting the fore feet in the passage. Where the fore feet were presented it was bes tto remove them, and then the two hind legs could be reached and the foal delivered by means of pulleys, without much trouble. With regard to the bands sometimes found at the neck of the womb, those were difficult cases. He mentioned the case of a cow which was in labour and straining for three days. So closely was the neck of the womb drawn that he could not pass three fingers in. But on parting the ring he managed to abstract the calf, and the cow did well.

Mr. SHIPLEY, jun., spoke in a more critical strain of Mr. Pollock's instruments. He ordered some of the steel bands, and found on account of the strength of the spring they were useless. He was showing one to a friend, when it broke in halves in his hand. If it had broken when in use the consequences might have been very serious. He was pleased that they were now being made stronger. The ear forceps were very pretty instruments, but he questioned their utility. The difficult fœtus with which they had to deal were the dead ones which had undergone more or less decomposition. His impression was that if one managed to get the forceps on one, it would slip off again almost immediately. With regard to presentations, he thought Mr. Pollock might have laid more stress upon securing those portions which had to be amputated inside the uterus. He had had many cases of twisted uterus, but had never encountered a case in which there was a distinct tight ring round the mouth. He had generally found that if one was careful to exercise pressure on one limb or the other, taking care to guide the fœtus with the arm, the uterus would right itself. With regard to irrigation, he said he thought it was the general practice to remove the fœtid membrane, but it was dangerous to pump antiseptics into the womb. They did as much harm as good. It was easy to pump them into the womb, but it was difficult to get them all out, and the fluid often set up inflammation. He had never known the fœtal membrane do any harm by being left alone. He was sometimes compelled to take it away to oblige his clients, but he did not always believe it desirable to remove it. Even by introducing the hand into the womb, one was liable to introduce the very septic organism that one was anxious to keep out. As to hurry in delivering the fœtus, Mr. Shipley observed that a busy practitioner had to effect the delivery when he was called. He could not be expected to wait about for ten or twelve hours.

The hon. SECRETARY (Mr. Taylor) said that it had been his practice to remove the fœtal membrane from cows if nature did not do so within four or five days. If he did not remove it and the cow died, he should attribute the death to his neglect, and his clients would not be very well satisfied. He made it a rule to irrigate the womb with chinosol using 30 grains to about half a gallon of warm water.

Mr. TURTILL said that a few years ago he had an outbreak of abortion in a large dairy of cows. The fœtal membranes were retained, but several cases of septic

poisoning resulted, and afterwards he was always careful to try and remove them. He believed in irrigation and generally used a weak solution of Condy's fluid.

Mr. T. E. AUGER referred to the difficulty of carrying the instruments about with him. He could not afford to keep them by him, and if he was called up in the night it would be impossible to telegraph for them. They were, however, merely in their embryo stage, and would he believed be most valuable when they came into general use.

Mr. POLLOCK then replied at length, pointing out that all the instruments exhibited were not required by one practitioner as several were shewn in duplicate. The two large ecraseurs were really too strong; in future they would not be made so large, the strength required being over-estimated. The third ecraseur shown was much smaller, and with one or two minor improvements wrought upon it, the profession would find that it would do its work without the slightest difficulty. Having been asked the price of a complete set of the instruments, he stated they would cost from £18 to £20. The ecraseur would probably be got for something like 5 guineas. The guillotine and embryotome be regarded as useful instruments and likely to be popular. Mr. Pollock expressed his pleasure at the frank and fair way in which his paper had been discussed. Referring to Mr. Smith's remark when he said that "he doubted whether the ecraseur could be used when the parts were much swollen," Mr. Pollock said he thought the early use of the instruments would prevent such prolonged manipulation leading to injury of the parts. He asked that the ecraseur might have a fair trial, and not be used only when parts were swollen and other injuries done. As to the size of ecraseur, he did not see why it could not be freely used, as it was less than 1-5th of the operator's arm in size; when once placed the operator's arm would not be in canal at the same time. He felt positive that the ecraseur would do what they had wished for years past that an instrument might be able to do. He was pleased to note that our President had come across a case in which he thought the harpoon would have proved successful. In regard to Mr. Gooch's remarks as to mode of operating in figure 7, he desired to point out that three methods of operating had been suggested, and judgment was required to choose which would be best. Professor Almond, in speaking of the instruments, had pointed out that they were both simple and complex. Like him, Mr. Pollock said he had often found the simplest instruments the most useful. But he pointed out that in his paper he is dealing with difficult cases for which the instruments up to the present at the disposal of the profession have been quite inadequate.

Dwelling on the interesting subject of irrigation, Mr. Pollock said that in all cases where delivery was difficult and when the operation had to be performed in imperfect sanitary surroundings, he advised removal of the placental membrane at once. He thought it extremely bad practice to leave placenta in a mare after operating, and he suggested its removal in cows also after any difficult operation. In dealing with retention of membrane after natural birth we ought to decide in our minds as to the cause of this retention. If due to simple weakness or a chill he should not advise removal, but give constitutional treatment. On the other hand, if one case of retention is followed quickly by many others, there is sure to be some septic matter or specific organism at work setting up metritis, and he believed that this was spread from cow to cow principally by the attendants who assisted. In all such cases he advised thorough irrigation, proper sanitary measures, and change of attendants for a time. This was most important. As to the antiseptic to be used. Lysol was advocated by the highest authority as the best agent.

He then referred to the remarks by Mr. Shipley respecting the broken spring. He said it was possible the spring might have been badly tempered or had a crack in it. He assured the members that there need be no fear of springs breaking, as they can be so tempered and tested that each one sent out can be thoroughly guaranteed. In the near future the springs will be made of much narrower steel, and also of flat, round, and oval material as found most suitable. Mr. Shipley had made several strong remarks about not drawing special attention to the parts about to be cut off and securing them. Mr. Pollock said had he been lecturing to a class of students he would have been most careful on that point, but addressing a number of professional gentlemen he desired not to overburden his paper with details with which they were all familiar. Mr. Shipley had mentioned a case in which the operator lost a part or head of calf when cut off. Mr. Pollock was inclined to think it was the operator who had lost his head in that particular case. As to the ear instruments losing their hold, no fear need be entertained on that score.

In conclusion, Mr. Pollock said said that if by the invention of these instruments he had interested the profession, stimulated others to think more deeply, lessened the sufferings of the animals which came under their care, he had achieved something he had been longing to do for years.

Mr. SHIPLEY, senr., in expressing the thanks of the meeting to Mr. Pollock, observed that he had done more for the profession than any other member of the Society had ever attempted.

Mr. POLLOCK, in acknowledging the compliment said he hoped some one else would do something more useful before long. They had left this difficult subject alone long enough, but, having once set the ball rolling, they ought to go on kicking it. If veterinary surgeons went prepared for difficult obstetrical cases and treated them in a scientific surgical way they would please clients, prevent much unnecessary suffering, gain credit for themselves, and lift their profession considerably in the estimation of the public.

On account of the lateness of the hour it was resolved to postpone the discussion of Professor Nicholson Almond's paper on "Pasteur's Life and work" until the next meeting.

N.V.A. "Proceedings."

Any member of the Association who has not received his copy of the "Proceedings" would oblige by applying to the Hon. Sec. at once.

EXTRACTS AND NOTES.

PROFESSOR VIRCHOW ON MEDICAL SCIENCE.

Professor Rudolf Virchow, Director of the Berlin Pathological Institute, delivered in the St. Martin's Town Hall, on Monday, the second of the Huxley lectures. The subject chosen by the Professor was "Recent Advances in Science and their Bearing on Medicine and Surgery." The hall was crowded with members of the medical profession and students of the medical school. Lord Lister, President of the Royal Society, occupied the chair.

The reception accorded to the great German pathologist was quite enthusiastic in its cordiality. His appearance on the platform, accompanied by Lord Lister, was the signal for an outburst of cheering, again and again renewed, to which Professor Virchow, who was evidently affected by the demonstration, repeatedly bowed his acknowledgments.

Lord LISTER said:—This reception of yours shows how grateful we are to Prof. Virchow for making a jour-

ney all the way from Berlin for the purpose of giving this Huxley lecture. (Cheers.) Virchow requires no introduction to an audience like this (cheers), and I am sure I shall best consult the wishes of you all if without further preface I ask him to be good enough to address you.—(Renewed cheers.)

Professor VIRCHOW, who was received with prolonged cheering, said :—The honour of being invited to deliver the second Huxley lecture has deeply moved me. How beautiful are these days of remembrance which have become a national custom of the English people !

Huxley, though trained in the practical school of Charing Cross Hospital, won his special title to fame in the domain of biology. As a matter of fact, at that time even the name of biology had not come into general use. It was only recently that the idea of life itself obtained its full significance. Even in the late middle ages it had not sufficient strength to struggle through the veil of dogmatism into the light. I am glad to be able to-day for the second time to credit the English nation with the service of having made the first attempts to define the nature and character of life. (Cheers). It was Francis Glisson, who, following expressly in the footsteps of Paracelsus, investigated the *principium vitæ*. If he could not elucidate the nature of life he at least recognised its main characteristic. This is what he was the first to describe as "irritability," the property on which the energy of living matter depends. How great was the step from Paracelsus to Glisson, and—we may continue—from Glisson to Hunter ! According to Paracelsus, life was the work of a special *spiritus* which set material substance in action, like a machine ; for Glisson, matter itself was the *principium energeticum*. Unfortunately, he did not confine this dictum to living substances only, but applied it to substance in general, to all matter. It was Hunter who first announced the specific nature of living matter as contrasted with non-living, and he was led to place a *materia vitæ diffusa* at the head of his physiological and pathological views. According to the teaching of Hewson and Hunter, the blood supplied the plastic materials of physiology as well as the plastic exudates of pathology. Such was the basis of the new biological method, if one can apply such an expression to a still incomplete doctrine, in 1842, when Huxley was beginning his medical studies at Charing Cross Hospital. It would lead too far afield were I to recount in this place how it happened that I myself, like Huxley, was early weaned from the pernicious doctrines of humoral pathology.

THE DEVELOPMENT OF BIOLOGY.

When Huxley himself left Charing Cross Hospital, in 1846, he had enjoyed a rich measure of instruction in anatomy and physiology. Thus trained, he took the post of naval surgeon, and by the time that he returned, four yeors later, he had become a perfect zoologist and a keen-sighted ethnologist. How thi s was possible, any one will readily understand who knows from his own experience how great the value of personal observation is for the development of independent and unprejudiced thought. For a young man who, besides collecting a rich treasure of positive knowledge, has practised dissection and the exercise of a critical judgment, a long sea-voyage and a peaceful sojourn among entirely new surroundings afford an invaluable opportunity for original work and deep reflection. Freed from the formalism of the schools, thrown upon the use of his own intellect, compelled to test each single object as regards properties and history, he soon forgets the dogmas of the prevailing system and becomes, first sceptic, and then an investigator. This change, which did not fail to affect Huxley, and through which arose that Huxley whom we commemorate to-day, is no unknown occurrence to one who is acquainted with the history, not only of knowledge, but also of scholars. We need only point to John Hunter and Darwin as closely-allied examples. The path on which these men have achieved their triumphs is that which biology in general has trodden with ever widening strides since the end of last century—it is the path of genetic investigation. We Germans point with pride to our countryman who opened up this road with with full conviction of its importance, and who directed towards it the eyes of the world—our poet-prince Goethe. What he accomplished in particular from plants others of our fellow-countrymen achieved from animals—Wolf, Meckel, and our whole embryological school. As Harvey, Haller, and Hunter had once done, so these men began also with the study of the "ovulum," but this very soon showed that the egg was itself organised, and that from it arose the whole series of organic developments. When Huxley, after his return, came to publish his fundamental observations he found the history of the progressive transformations of the contents of the egg already verified ; for it was by now known that the egg was a cell, and from it fresh cells, and from them organs, arose. The second of his three famous papers—that on the relationship between man and the animals next beneath him—limned in exemplary fashion the parallelism in the earliest development of all animal beings. But beyond this it stepped boldly across the border-line which tradition and dogma had drawn between man and beast. Huxley had no hesitation in filling the gaps which Darwin had left in his argument. and in explaining that "in respect of substance and structure man and the lower animals are one." Whatever opinion one may hold as to the origin of mankind, the conviction as to the fundamental correspondence of human organisation with that of animals is at present universally accepted. (Cheers.)

OMNIS CELLULA E CELLULA.

. . . The greatest difficulty in the advance of biology has been the natural tendency of its disciples to set the search after the unity of life in the forefront of their inquiries. Hence arose the doctrine of vital force, an assumption now discarded, but still revealing its influence from time to time in isolated errors. No satisfactory progress could be made till the idea of highly organised living things as units had been set aside ; till it was recognised that they were in reality organisms, each constituent part of which had its special life. Ultimate analysis of higher animals and plants brings us alike to the cell, and it is these single parts, the cells, which are to be regarded as the factors of existence. The discovery of the development of complete beings from the ova of animals and the germ-cells of plants has bridged the gap between isolated living cells and complete organisms, and has enabled the study of the former to be employed in elucidating the life of the latter. In a medical school where the teaching is almost exclusively concerned with human beings this sentence should be writ large :—"The organism is not an individual, but a social mechanism." Two corollaries must also be stated —(1) that every living organism, like every organ and tissue, contains cells ; (2) that the cells are composed of organic chemical substances, which are not themselves alive. The progress of truth in these matters was much retarded by that portion of Schwann's cell theory which sought to establish the existence of free cell-formation, which really implied the revival of the old doctrine of spontaneous generation. This belief was gradually driven out of the domain of zoology, but in connection with the formation of plastic exudates found a sanctuary in that of pathology. I myself was taught the discontinuity of pathological growths—a view which would logically lead back to the origin of living from non-living matter. But enlightenment in this matter came to me. At the end of my academical career I was acting as clinical assistant in the eye department of the Berlin Hospital, and I was struck by the fact that keratitis and corneal wounds healed without the appearance

of plastic exudation, and I was thus led to study the process of inflammation in other non-vascular structures, such as articular cartilages and the intima of the larger vessels. In no one of these cases was plastic exudation found, but in all of them were changes in the tissue cells. Turning next to vascular organs, and in particular those which are the common seats of exudation processes, I succeeded in demonstrating that the presence of cells in inflammatory exudates was not the result of exudation, but of multiplication of pre-existing cells. Extending this to the growth in thickness of the long bones—which was ascribed by Duhamel to organisation of a nutritious juice exuded by the periosteal vessels—I was thus eventually able to extend the biological doctrine of *omnis cellula e cellula* to pathological processes as well; every new formation presupposing a matrix or tissue from which its cells arise and the stamp of which they bear.

Heredity.

Herein also lies the key to the mystery of heredity. The humoral theory attributed this to the blood, and based the most fantastic ideas upon this hypothesis; we know now that the cells are the factors of the inherited properties, the sources of the germs of new tissues and the motive power of vital action. It must not, however, be supposed that all the problems of heredity have thus been solved. Thus, for instance, a general explanation of theromorphism, or the appearance of variations recalling the lower animals, is still to be found. Each case must be studied on its merits, and an endeavour made to discover whether it arose by atavism or by hereditary transmission of an acquired condition. As to the occurrence of the latter mode of origin, I can express myself positively. Equally difficult is the question of hereditary diseases; this is now generally assumed to depend on the transmission of a predisposition which is present, though not recognisable, in the earliest cells, being derived from the paternal or maternal tissues. But the most elaborately constructed doctrines as to the hereditariness of a given disorder may break down before the discovery of an actual *causa viva*. A notable example of this is found in the case of leprosy, the Oib
the transmission of which by inheritance was at one time so firmly believed in that 30 years ago a law was nearly passed in Norway forbidding the marriage of members of leprous families. I myself, however, found that a certain number of cases at any rate did not arise in this way, and my results were confirmed by the discovery of the leprosy bacillus by Armauer Hansen. In a moment the hereditary theory of the disease was overthrown and the old view of its acquirement by contagion restored. Precisely the same happened a few decades earlier with regard to favus and scabies. Another instructive condition is that known as Heterotopia in which fragments of tissues or organs are found dwelling in a situation other than that which is normal to them. This is particularly the case with certain glands, such as the thyroid and suprarenal, but is also known with cartilage, teeth, and the various constituents of dermoids. It no doubt occurs by process of transplantation, the misplaced tissues developing no new properties, but merely preserving their normal powers of growth. The attempt to generalize from this fact and to attribute all tumour-formation to this cause carries the idea beyond its proper scientific limits.

Parasitism and Infection.

With regard to the subject of parasitism, the progress of scientific observation was retarded for centuries by the prevalence of the assumption made by Paracelsus that disease in general was to be regarded as a parasite. Pushed to its logical conclusion this view would imply that each independent living part of the organism would act as a parasite relatively to the others. The true conception of a parasite implies its harmfulness to its host. The larger animal parasites have been longest known, but it is not so many years since their life history has been completely ascertained and the nature of their cysts explained, while an alternation of generations has been discovered in those which are apparently sexless. Very much more recent is the detection of the parasitic protozoa, by which the occurrence of the tropical fevers may be explained. As yet we have not complete knowledge as to their life history, but we hold the end of the chain by which this knowledge can be attained. The *élite* of the infectious diseases are, however, the work of the minutest kind of parasitic plants, bacteria, the scientific study of which may be said to date from Pasteur's immortal researches upon putrefaction and fermentation. (Cheers.) The observation of microbes under exact experimental conditions and the chemical investigation of their products opened up the modern field of bacteriology, a science among the early triumphs of which were the discoveries of the bacilli of tubercle and Asiatic cholera by Robert Koch. In connection with this subject three important landmarks require comment. One is the necessity for distinguishing between the cause and the essential nature of infectious diseases, the latter of which is determined by the reaction of the tissues and organs to microbes. Secondly, there is the relation between the smaller parasites and the diseases determined by them. This may be summed up in the general word (introduced by Professor Virchow himself) "infection." But to assume that all infections result from the action of bacteria is to go beyond the domain of present knowledge and probably to retard further progress. The third point is the question as to the mode of action of infection. It is only the larger parasites whose main effect is the devouring of parts of their hosts; the smaller act mainly by the secretion of virulent poisons. The recognition of this latter fact has led to the brilliant work of Lister (cheers) on the one hand and to the introduction of serum-therapeutics on the other.

Antiseptic Surgery.

It would be carrying coals to Newcastle (cheers and laughter) were I to sketch in London the beneficial effects which the application of methods of cleanliness has exercised upon surgical practice. In the city wherein the man still lives and works who, by devising this treatment, has introduced the greatest and most beneficent reform that the practical branches of medical science have ever known (cheers), every one is aware that Lord Lister, on the strength of his original reasoning, arrived at practical results which the new theory of fermentative and septic processes fully confirmed. Before any one had succeeded in demonstrating by exact methods the microbes which are active in different diseases, Lister had learnt, in a truly prophetic revelation, the means by which protection against the action of putrefactive organisms can be attained. The opening up of further regions of clinical medicine to the knife of the surgeon and a perfect revolution in the basis of therapeutics have been the consequence. Lord Lister, who I am proud to be able to greet as an old friend (loud and prolonged cheers, during which Prof. Virchow turned to shake Lord Lister warmly by the hand), is already and always will be reckoned amongst the greatest benefactors of the human race. May he long be spared to remain at the head of the movement which he called into existence. (Renewed cheers.)

Artificial Immunization.

It remains for me to say a word concerning the other great problem, the solution of which the whole world is awaiting with anxious impatience. I refer to the problem of immunity and its practical corollary, artificial immunization. It has already happened once that an Englishman has succeeded in applying this to the definite destruction of at least one of the most deadly infectious

diseases. Jenner's noble discovery has stood its trial as successfully, except in popular fancy, as he hoped. (Cheers.) Vaccine is in all hands; vaccination is, with the aid of Governments, spreading continually. Pasteur also laboured with determination; others have followed him, and the new doctrine of anti-toxins is continually acquiring more adherents. But it has not yet emerged from the conflict of opinions, and still less is the secret of immunity itself revealed. We must become well accustomed to the thought that only the next century can bring light and certainty on this point.—*The Times.*

Glanders in Ireland.

An outbreak of this disease was reported from the Belfast district during the week ending 17th September. This is the first case reported for a number of weeks, and is only the third for the whole country since the beginning of the year. The number of animals affected in the present outbreak was three.

ARMY VETERINARY DEPARTMENT.

From *The London Gazette*, Sept. 30, 1898.

Extract from despatch from General Commanding Egypt, dated Cairo, 16th September, 1898, to Secretary of State for War:—

"I also desire to acknowledge the services of . . . . . Vet.-Captain L. J. Blenkinsop, and the junior officers of the various departments."

Extract from despatch dated, Omdurman, 3rd Sept., 1898, from Major-General Sir H. Kitchener to Lieut.-General Sir F. Grenfell, General Commanding in Egypt:—

"The names of the following officers, etc., etc., have been brought to my notice for good service:—. . . . . Vet.-Captains G. R. Griffith and L. J. Blenkinsop; Vet.-Captain F. B. Drage (Royal Horse Guards); Vet.-Lieuts. T. E. W. Lewis, W. D. Smith, and W. E. Russell . . . ."

War Office, Oct. 4.

Vet.-Major G. J. R. Rayment, F.R.C.V.S., to be Vet.-Lieut.-Colonel vice J. Kettle, retired. Dated Aug. 4.

The undermentioned Vet.-Captains to be Vet.-Majors:—R. H. Ringe, and R. Pringle.

CORRESPONDENCE.

ON "SOME THEORIES OF HORSE SHOEING."

Sir,

Mr. Hunting will, I trust, forgive some more slight criticism on his paper on "Some Theories on Horse Shoeing" published in your last issue.

1. With regard to expansion and contraction of the foot, owing to the rigid nature of the solar surface, we must look further above, and by carefully watching the coronet in action we shall see this is the only place that it can occur, except the frog is subject, of course, to compression, and must undergo, therefore, slight expansion and contraction. When the contraction and expansion does not take place at the coronet "sandcrack" is the result, due to mal-nourishment of a part owing to deposits of bone or calcareous matter, in the coronary secreting substance, and causing a rigid condition to exist. Motion then, being almost impracticable below, is carried out at the point of union of skin and horn; the horn here, too, being much thinner than below. This arrangement assist to break "concussion" that undoubtedly is felt by horses in action. That concussion is transmitted from below in an upward direction is fairly demonstrated by trotting a horse some distance on a hard road and then passing on to a grass siding, when action is at once improved.

2. Does condition tell on brushing? Undoubtedly. This is especially noticeable in the Army. Remounts frequently give trouble in their first shoeings, but one is rarely called upon to do much alteration or prevention among the older troopers. Still there are many other causes of brushing beyond "condition." Conformation has much to answer for in this direction, and I have lately seen a remarkably fine topped horse which is rendered useless on account of the fact that he brushes even at a walk, the toes turning outwards to such a marked degree. I was once called upon to give an opinion on a large stable of coach horses, most of which were brushing and all wore preventive boots, and naturally the farriers (natives of India) were blamed.

On examination of the shoes I found the lower edges of the shoes had worn to sharp, slightly protruding edges. Iron of a better quality was then used and a man detailed to rasp the sharp edge off the shoes. This stopped the annoyance. Bad shoeing, fitting, or carelessness over finishing clenches are often the cause of brushing. Owners of forges are frequently deserving of sympathy through the fault, as stated above, being conformation. Action again must be remembered as a fruitful cause of brushing.

3. Experience has taught me that by persevering in shoeing many faults of conformation can be either removed or certainly improved by shoeing. It is frequently a matter of a very long time and is accomplished either by thickening or thinning one side of the shoe, but this must be *gradual*.—I have the honor to be, sir, yours sincerely,

Vet.-Capt. J. M. Smith, A.V.D.

Aldershot, Oct. 4.

MR. DEANS AND HIS SO-CALLED CLAIM TO THE INTRA-ARTHRODEAL CURE OF BOG-SPAVIN.

Sir,

On perusing our literature it will be found that there is nothing new in Mr. Deans practice of injecting an irritant into a synovial membrane. The late Professor Walley taught it, and will be found mentioned in various text books on materia medica and some works on surgery. Iodine is the material generally recommended although Mr. Deans uses "decolourised iodine" an unintelligible name for the "tinctura iodi decolorata" of the *B.P.C.*, the formula of which is found not in the *B.P.* but in the *Extra Pharmacopœia* of Martindale and Westcott. Have not some professors taught for years that synovia should be drawn off by the pneumatic aspirator? When I was at College I saw it performed.

I do not believe in quackery, and Mr. Deans has only done his duty by bringing forcibly to the notice of the profession an already known procedure of treating synovial enlargements, and inventing a time saving appliance.

By one who likes to call a spade a spade.

[*Several communications are unavoidably held over.*]

Communications, Books, and Papers received:—Major Nunn, Capt. J. M. Smith, Messrs. W. A. Bull, G. Mayall, E. R. Edwards, J. C. Coleman, F. B. O. Taylor, A. L. Farrant.

"*The Wanton Mutilation of Animals*," by Geo. Fleming.

Original articles and reports should be written on one side only of the paper and authenticated by the names and addresses of the writers not necessarily for publication.